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(54) **PACKET OF CIGARETTES AND RELATIVE PRODUCTION METHOD**

**ZIGARETTENSCHACHTEL UND ENTSPRECHENDES HERSTELLUNGSVERFAHREN**

**PAQUET DE CIGARETTES ET PROCEDE DE PRODUCTION ASSOCIE**

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• **LI VIGNI, Angelo**  
**I-40133 Bologna (IT)**

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(74) Representative: **Franzolin, Luigi et al**  
**STUDIO TORTA S.r.l.,**  
**Via Viotti, 9**  
**10121 Torino (IT)**

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(73) Proprietor: **G.D SOCIETA' PER AZIONI**  
**40133 Bologna (BO) (IT)**

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(72) Inventors:  
• **DRAGHETTI, Firenze**  
**I-40059 Medicina (IT)**

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**Description**

information.

**TECHNICAL FIELD****DISCLOSURE OF INVENTION**

[0001] The present invention relates to a packet of cigarettes.

[0002] In particular, the present invention relates to a parallelepiped-shaped packet of cigarettes comprising an outer package normally formed by folding sheet material, and an inner wrapping of foil or paper wrapped about a group of cigarettes.

[0003] Here and hereinafter, the term "outer package" is used to indicate an outer wrapping normally formed from a sheet of paper or from a blank of cardboard or similar; or an overwrapping formed from a sheet of transparent material; or the above outer wrapping and overwrapping combined.

**BACKGROUND ART**

[0004] Patent EP 317,202 discloses a novel tear strip or sealing strip for a package of cigarette; the tear strip or sealing strip comprises a plastic film substrate upon which a magnetizable metal oxide coating has been deposited. The coated strip may be adhered to the package or the flexible wrapping material for the package or container. Optionally, the strip may be coated with a pigment or metallized or printed with graphic indicia or any combination of these features. Information may be recorded on the magnetic coating during packaging and handling for subsequent readout.

[0005] In other words patent EP 317,202 discloses a packet provided with a portion of magnetic tape visible from the outside, and on which is recorded data unequivocally identifying the packet; the portion of magnetic tape constitutes for the packet, among other things, a certificate of origin making any attempt to counterfeit the packet extremely complicated and expensive.

[0006] To produce such a packet, packing machines are provided with a line for supplying a prerecorded magnetic tape, from which portions containing the data relative to the packets are cut off successively.

[0007] Together with the data recorded on the respective portion of magnetic tape, it is often desirable to also provide each packet with data of interest, not so much to the maker or retailer, as to the consumer, such as the date of manufacture and, more importantly, a possible sell-by date.

[0008] Obviously, consumer-directed data cannot be recorded magnetically on the magnetic tape, by requiring special reading devices for it to be read; and neither can it be prerecorded, since information such as the sell-by date of the packet can only be applied to the packet when it is actually produced.

[0009] Patent EP 317,202 discloses to optionally printing the tear/sealing strip with graphic indicia; however, the dimensions and the location of the tear/sealing strip does not allow giving to the consumer the desired

[0010] It is an object of the present invention to provide a packet of cigarettes designed to provide consumers with all necessary information in clear text, in a low-cost manner and with substantially no alterations to existing packing machines.

[0011] According to the present invention, there is provided a packet of cigarettes as recited in Claim 1.

[0012] The present invention also relates to a method of producing a packet of cigarettes.

[0013] According to the present invention, there is provided a method of producing a packet of cigarettes as recited in Claim 4.

**BRIEF DESCRIPTION OF THE DRAWINGS**

[0014] A number of non-limiting embodiments of the present invention will be described by way of example with reference to the accompanying drawings, in which:

Figure 1 shows a schematic view in perspective, partly in block form, of a portion of a production line of a machine for producing a first embodiment of the packet according to the present invention;

Figure 2 shows a schematic view in perspective, partly in block form, of a portion of a production line of a machine for producing a second embodiment of the packet according to the present invention;

Figure 3 shows a larger-scale view of a detail of the second embodiment of the packet according to the present invention;

Figure 4 shows a schematic view in perspective, partly in block form, of a variation of the Figure 1 production line.

**BEST MODE FOR CARRYING OUT THE INVENTION**

[0015] Number 1 in Figure 1 indicates as a whole a line for producing packets 2, each of which is substantially parallelepiped-shaped and houses a group of cigarettes (not shown) enclosed in an inner wrapping 3 made by folding a sheet 3a of foil in known manner.

[0016] Each packet 2 comprises an outer package 4, which, in the example shown, comprises an outer wrapping 5 about inner wrapping 3, and an overwrapping 6 of transparent material - in the example shown, polypropylene - covering outer wrapping 5.

[0017] Packet 2 also comprises a label 7 defined by a portion 8 of magnetic data recording tape, which, in the specific example shown, is connected to outer wrapping 5 and has graphic signs 9 visible on the outside of packet 2 and containing, for example, the date of manufacture of packet 2.

[0018] In variations not shown, label 7 is connected to overwrapping 6, or - in the event packet 2 is a so-

called "soft" pack, in which part of inner wrapping 3 is visible on the outside - is connected astride outer wrapping 5 and inner wrapping 3.

[0019] Line 1 comprises a known supply line 10 in turn comprising a support 11 for a reel 12, from which a continuous strip 13 of sheet material is unwound and fed by a conveyor 14 to a cutting station 15 where strip 13 is converted into a succession of sheets 16 of packing material.

[0020] In a variation not shown, line 10 is replaced by a known line (not shown) for supplying precut sheets 16 of packing material defined, for example, by blanks.

[0021] Each sheet 16 of packing material is fed by a conveyor 17 to the input of a known packing wheel 18 forming part of line 1, and by which sheet 16 of packing material is folded about a respective inner wrapping 3 to form respective outer wrapping 5.

[0022] On a known cellophaning machine 19 downstream from packing wheel 18 and forming part of line 1, outer wrapping 5 is then covered with a sheet 20 of transparent overwrapping material, which is folded in known manner about outer wrapping 5 to form overwrapping 6 and so complete outer package 4.

[0023] Line 1 also comprises a line 21 for supplying portions 8, and which in turn comprises a support 22 for a reel 23, from which is unwound a continuous magnetic tape 24, one surface 25 of which is coated, in the example shown, with an optional layer 26 of lacquer. On the opposite side to surface 25, tape 24 has a surface 27, which is cold gummed and protected by a nonstick strip 28, which is unwound together with tape 24 and guided by a guide roller 29 along a collecting path R.

[0024] Tape 24 is fed by two rollers 30 to a cutting station 31 where it is cut into a succession of portions 8. Portions 8 so formed are then fed onto a conveyor 32 - preferably a nonstick suction conveyor - by which they are accelerated to separate them by a distance equal to the length of a sheet 16 of packing material before being fed by a conveyor 33 onto the outer surface of strip 13 on conveyor 14. Strip 13, together with portions 8, is then fed by conveyor 14 through cutting station 15, and the resulting sheets 16 of packing material are fed by conveyor 17 onto packing wheel 18.

[0025] Along line 1 and upstream from conveyor 33, there is provided a printing device 34 - optical, ink-jet or other type - for printing graphic signs 9 on surface 25 of each portion 8.

[0026] As shown in the variations indicated by the dash lines in Figure 1, printing device 34 may be located anywhere along line 1 permitting on-line printing of graphic signs 9 on portions 8.

[0027] As an alternative to line 1, Figure 2 shows a production line 35, the parts of which are indicated, wherever possible, using the same reference numbers as for the corresponding parts of line 1.

[0028] Line 35 produces a succession of packets 2, each having a label 7, which is integral with outer wrapping 5 and, as shown more clearly in Figure 3, is defined

by a rectangular portion 36 of paper to which is connected a rectangular magnetic portion 8 smaller than portion 36. The part of portion 36 not occupied by portion 8 comprises a portion bearing graphic signs 9, which are printed on portion 36 by printing device 34.

[0029] Line 35 is similar to line 1, except that line 21 supplying portions 8 on line 1 is replaced by a line 37, which, in addition to line 21, also comprises a further line 38 located upstream from line 21 and for supplying portions 36.

[0030] Line 38 comprises a support 39 for a reel 40, from which is unwound a continuous strip 41 of paper material, one surface 42 of which is cold gummed and protected by a nonstick strip 43, which is unwound together with strip 41 and guided by a guide roller 44 along a collecting path R1.

[0031] Continuous strip 41 is guided by a roller 45 onto a conveyor 46 - preferably a nonstick suction conveyor - by which continuous strip 41 is fed through a cutting station 47 to obtain a continuous succession of portions 36. Portions 36 are transferred to a conveyor 48, by which they are accelerated and spaced a given distance apart. And to each portion 36 is applied a respective portion 8, which, at the output of line 21, is accelerated by a conveyor 50 and applied to respective portion 36 by a roller 49.

[0032] Each label 7 so formed is transferred by a conveyor 51 to a conveyor 52, by which it is accelerated and separated from the adjacent labels 7 by a distance equal to the length of a sheet 16 of packing material, before being fed by conveyor 33 to the input of line 10.

[0033] Figure 4 shows a production line 53 similar to line 1, except that, as opposed to being arranged in series, lines 10 and 21 may be arranged parallel. More specifically, on line 53, line 10 (not shown in Figure 4) supplies sheets 16 of packing material (not shown in Figure 4) to packing wheel 18 (not shown in Figure 4), which forms and supplies outer wrappings 5 to cellophaning machine 19 (not shown in Figure 4) to form overwrappings 6 and so complete outer packages 4. As packets 2 are conveyed on a conveying wheel 54 upstream or downstream from cellophaning machine 19, a label 7, fed onto wheel 54 by line 21 and conveyor 33, is applied to overwrapping 6 or to the outer surface of outer wrapping 5 of each packet 2.

[0034] In a variation not shown, line 21 of production line 53 is replaced by a line 37.

[0035] In a further variation not shown, tape 24 of line 21 is lacquered on the machine by a lacquering device (not shown) downstream from reel 23.

## Claims

1. A packet of cigarettes having a parallelepiped shape and comprising a number of sheet material packing components (3a, 16, 20) folded and assembled to one another to define an inner wrapping (3)

housing a group of cigarettes and an outer package (4); the packet (2) having two lateral major walls and two lateral minor walls and comprising a top portion, which is openable for the extraction of the cigarettes, and a bottom portion; and a label (7) being applied to at least one of said packing components (3a, 16, 20) and being visible on the outside of the packet (2); at least one portion of the label (7) being defined by a portion (8) of magnetic data recording tape., the label (7) having printed graphic signs (9), **characterized in that** the label (7) is applied to one of said lateral walls of said bottom portion of the packet (2) in order to be completely arranged on only one lateral wall; said label (7) being defined by a rectangular portion (36) of paper-sheet printable material, which is bigger than said portion (8) of magnetic tape; said portion (8) of magnetic tape being applied to one side of said portion (36) of paper-sheet printable material; and said graphic signs (9) being printed on the part of portion (36) of the same said side of paper-sheet printable material not occupied by said portion (8) of magnetic tape.

2. A packet as claimed in Claim 1, wherein said outer package (4) comprises an outer wrapping (5); said label (7) being applied to an outer surface of said outer wrapping (5).
3. A packet as claimed in Claim 1, wherein said outer package (4) comprises an outer wrapping (5), and an overwrapping (6) of transparent material covering said outer wrapping (5); said label (7) being applied to said overwrapping (6).
4. A method of producing a packet (2) of cigarettes having a parallelepiped shape, the method comprising the first steps of folding and assembling to one another a number of sheet material components (3a, 16, 20) to define an inner wrapping (3) housing a group of cigarettes and an outer package (4); and a second step of supplying and applying a label (7) to at least one of said components (3a, 16, 20), so that the label (7) is visible on the outside of the said packet (2); the packet (2) having two lateral major walls and two lateral minor walls and comprising a top portion, which is openable for the extraction of the cigarettes, and a bottom portion; said label (7) being at least partly defined by a portion (8) of magnetic data recording tape; and the method being **characterized by** comprising the further step of printing graphic signs (9) on said label (7) during or after said second step; the label (7) being applied to one of said lateral walls of said bottom portion of the packet (2) in order to be completely arranged on only one lateral wall; said label (7) being defined by a rectangular portion (36) of paper-sheet printable material, which is bigger than said portion (8) of magnetic tape; said portion (8) of magnetic tape be-

ing applied to one side of said portion (36) of paper-sheet printable material; and said graphic signs (9) being printed on the part of portion (36) of the same said side of paper-sheet printable material not occupied by said portion (8) of magnetic tape.

5. A method as claimed in Claim 4, wherein said label (7) is applied to said component (3a; 16; 20) before said first steps are performed.
6. A method as claimed in Claim 4, wherein said label (7) is applied to said component (3a; 16; 20) after said first steps are performed.

#### Patentansprüche

1. Zigarettenpackung, die eine parallelepipedische Form besitzt und mehrere Schichtmaterial-Verpackungskomponenten (3a, 16, 20) aufweist, die gefaltet und zusammengefügt sind, um eine Innenhülle (3), die eine Gruppe von Zigaretten aufnimmt, und eine Außenverpackung (4) zu definieren; wobei die Packung (2) zwei größere Seitenwände und zwei kleinere Seitenwände besitzt und einen oberen Abschnitt, der für die Entnahme der Zigaretten geöffnet werden kann, sowie einen unteren Abschnitt umfasst; wobei auf wenigstens eine der Verpackungskomponenten (3a, 16, 20) ein Etikett (7) aufgebracht ist, das an der Außenseite der Packung (2) sichtbar ist; wobei wenigstens ein Abschnitt des Etiketts (7) durch einen Abschnitt (8) eines magnetischen Datenaufzeichnungsbandes definiert ist und das Etikett (7) gedruckte graphische Zeichen (9) besitzt, **dadurch gekennzeichnet, dass** das Etikett (7) auf eine der Seitenwände des unteren Abschnitts der Verpackung (2) aufgebracht ist, um lediglich auf einer Seitenwand vollständig angeordnet zu sein; wobei das Etikett (7) durch einen rechtwinkligen Abschnitt (36) aus einem bedruckbaren Papierschichtmaterial definiert ist, der größer als der Abschnitt (8) des Magnetbandes ist; wobei der Abschnitt (8) des Magnetbandes auf eine Seite des Abschnitts (36) aus bedruckbarem Papierschichtmaterial aufgebracht ist; und die graphischen Zeichen (9) auf jenen Teil des Abschnitts (36) derselben Seite des bedruckbaren Papierschichtmaterials, der nicht von dem Abschnitt (8) des Magnetbandes eingenommen wird, gedruckt sind.
2. Packung nach Anspruch 1, bei der die Außenverpackung (4) eine Außenhülle (5) umfasst, wobei das Etikett (7) auf eine äußere Oberfläche der Außenhülle (5) aufgebracht ist.
3. Packung nach Anspruch 1, bei der die Außenverpackung (4) eine Außenhülle (5) und eine Umhüllung (6) aus lichtdurchlässigem Material, die die Au-

Benhülle (5) abdeckt, umfasst; wobei das Etikett (7) auf die Umhüllung (6) aufgebracht ist.

4. , Verfahren zum Herstellen einer Zigarettenpackung, die eine parallelepipedische Form besitzt, wobei das Verfahren die ersten Schritte, bei denen mehrere Schichtmaterial-Komponenten (3a, 16, 20) gefaltet und zusammengefügt werden, um eine Innenhülle (3), die eine Gruppe von Zigaretten aufnimmt, sowie eine Außenverpackung (4) zu definieren; und einen zweiten Schritt, bei dem wenigstens einer der Komponenten (3a, 16, 20) ein Etikett zugeführt und auf diese aufgebracht wird, so dass das Etikett (7) zur Außenseite der Packung (2) sichtbar ist, umfasst; wobei die Packung (2) zwei größere Seitenwände und zwei kleinere Seitenwände besitzt und einen oberen Abschnitt, der für die Entnahme der Zigaretten geöffnet werden kann, sowie einen unteren Abschnitt umfasst; wobei das Etikett (7) wenigstens teilweise durch einen Abschnitt (8) eines magnetischen Datenaufzeichnungsbandes definiert ist; und wobei das Verfahren **gekennzeichnet ist durch** den weiteren Schritt, bei dem auf das Etikett (7) während oder nach dem zweiten Schritt graphische Zeichen (9) gedruckt werden; wobei das Etikett auf eine der Seitenwände des unteren Abschnitts der Packung (2) aufgebracht wird, so dass es lediglich auf einer seitlichen Wand vollständig angeordnet ist; wobei das Etikett (7) **durch** einen rechtwinkligen Abschnitt (36) aus bedruckbarem Papierschichtmaterial definiert ist, der größer als der Abschnitt (8) des Magnetbandes ist; wobei der Abschnitt (8) des Magnetbandes auf eine Seite des Abschnitts (36) des bedruckbaren Papierschichtmaterials aufgebracht wird; und wobei die graphischen Zeichen (9) auf jenen Teil des Abschnitts (36) auf derselben Seite des bedruckbaren Papierschichtmaterials, der nicht von dem Abschnitt (8) des Magnetbandes eingenommen wird, gedruckt werden.
5. Verfahren nach Anspruch 4, bei dem das Etikett (7) auf die Komponente (3a; 16; 20) aufgebracht wird, bevor die ersten Schritte ausgeführt werden.
6. Verfahren nach Anspruch 4, bei dem das Etikett (7) auf die Komponente (3a; 16; 20) aufgebracht wird, nachdem die ersten Schritte ausgeführt worden sind.

#### Revendications

1. Paquet de cigarettes en forme de parallélépipède et comprenant un nombre d'éléments d'emballage de matériau en feuille (3a, 16, 20) pliés et assemblés les uns avec les autres pour définir une enveloppe interne (3) logeant un groupe de cigarettes et

un emballage externe (4) ; le paquet (2) comportant deux parois latérales majeures et deux parois latérales mineures et comprenant une portion supérieure, qui est adaptée à être ouverte pour extraire les cigarettes, et une portion inférieure ; et une étiquette (7) étant appliquée sur au moins l'un desdits éléments d'emballage (3a, 16, 20) et étant visible sur l'extérieur du paquet (2) ; au moins une portion de l'étiquette (7) étant définie par une portion (8) de bande magnétique d'enregistrement de données ; l'étiquette (7) comportant des signes graphiques imprimés (9) ; **caractérisé en ce que** l'étiquette (7) est appliquée sur l'une desdites parois latérales de ladite portion inférieure du paquet (2) afin d'être complètement agencée sur une seule paroi latérale ; l'étiquette (7) étant définie par une portion rectangulaire (36) de matériau imprimable de feuille de papier, qui est plus grande que ladite portion (8) de bande magnétique ; ladite portion (8) de bande magnétique étant appliquée sur une face de ladite portion (36) de matériau imprimable de feuille de papier ; et lesdits signes graphiques (9) étant imprimés sur la partie de portion (36) de la même dite face de matériau imprimable de feuille de papier non occupée par ladite portion (8) de bande magnétique.

2. Paquet selon la revendication 1, dans lequel ledit emballage externe (4) comprend une enveloppe externe (5) ; ladite étiquette (7) étant appliquée sur une surface externe de ladite enveloppe externe (5).
3. Paquet selon la revendication 1, dans lequel ledit emballage externe (4) comprend une enveloppe externe (5), et une sur-enveloppe (6) de matériau transparent recouvrant ladite enveloppe externe (5) ; ladite étiquette (7) étant appliquée sur ladite sur-enveloppe (6).
4. Procédé de fabrication d'un paquet (2) de cigarettes en forme de parallélépipède, le procédé comprenant les premières phases de pliage et d'assemblage les uns avec les autres d'un nombre d'éléments de matériau en feuille (3a, 16, 20) pour définir une enveloppe interne (3) logeant un groupe de cigarettes et un emballage externe (4) ; et une deuxième phase de fourniture et d'application d'une étiquette (7) sur au moins l'un desdits éléments (3a, 16, 20), de manière que l'étiquette (7) soit visible sur l'extérieur dudit paquet (2) ; le paquet (2) comportant deux parois latérales majeures et deux parois latérales mineures et comprenant une portion supérieure, qui est adaptée à être ouverte pour extraire les cigarettes, et une portion inférieure ; ladite étiquette (7) étant au moins en partie définie par une portion (8) de bande magnétique d'enregistrement de données ; et le procédé étant **caractérisé en ce**

qu'il comprend la phase supplémentaire d'impression de signes graphiques (9) sur ladite étiquette (7) pendant ou après ladite deuxième phase ; l'étiquette (7) étant appliquée sur l'une desdites parois latérales de ladite portion inférieure du paquet (2) afin d'être complètement agencée sur une seule paroi latérale ; ladite étiquette (7) étant définie par une portion rectangulaire (36) de matériau imprimable de feuille de papier, qui est plus grande que ladite portion (8) de bande magnétique ; ladite portion (8) de bande magnétique étant appliquée sur une face de ladite portion (36) de matériau imprimable de feuille de papier ; et lesdits signes graphiques (9) étant imprimés sur la partie de la portion (36) de la même dite face de matériau imprimable de feuille de papier non occupée par ladite portion (8) de bande magnétique.

5. Procédé selon la revendication 4, dans lequel ladite étiquette (7) est appliquée sur ledit élément (3a ; 16 ; 20) avant que lesdites premières phases ne soient mises en oeuvre.
6. Procédé selon la revendication 4, dans lequel ladite étiquette (7) est appliquée sur ledit élément (3a ; 16 ; 20) après la mise en oeuvre desdites premières phases.

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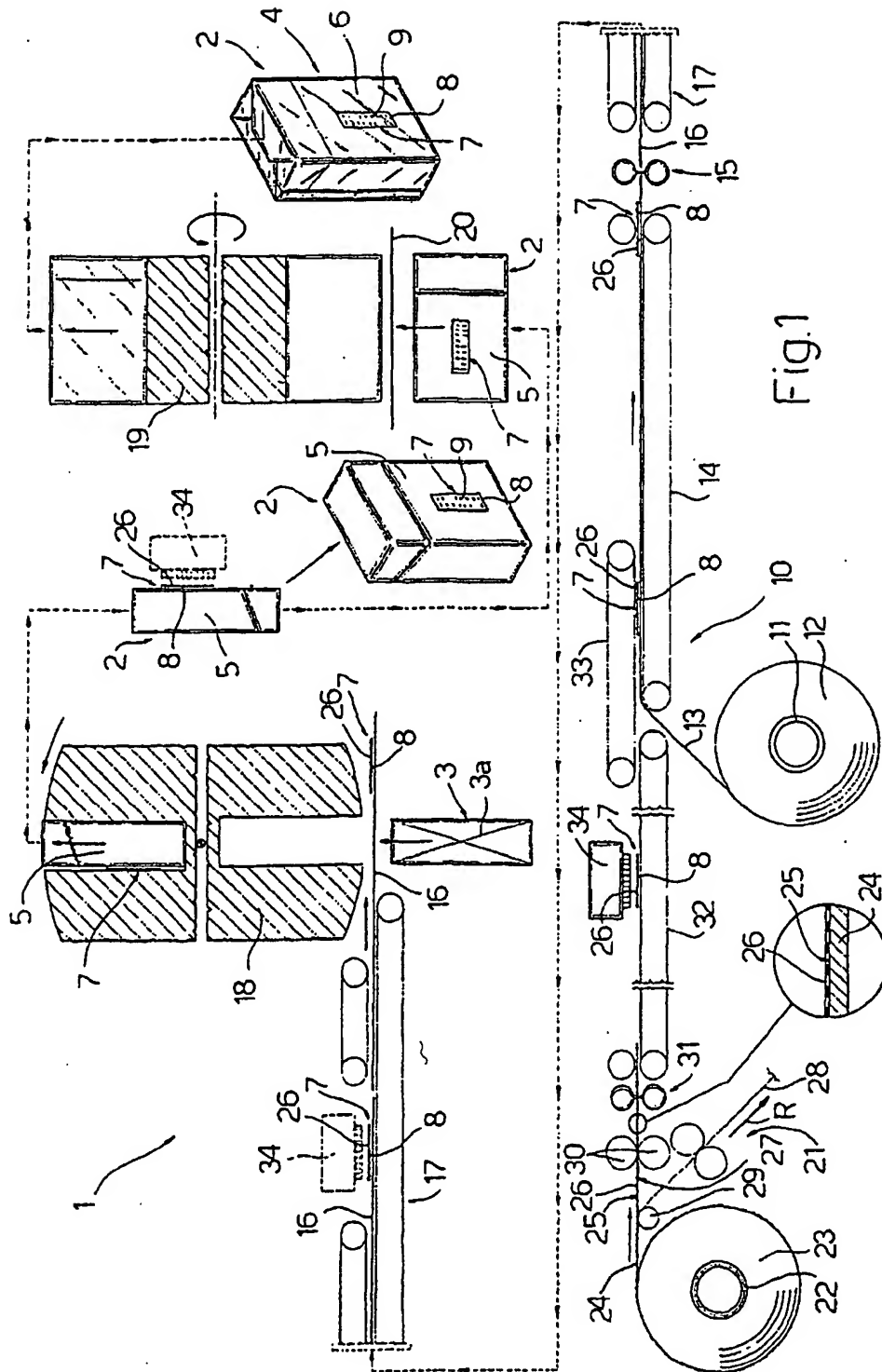


Fig.1

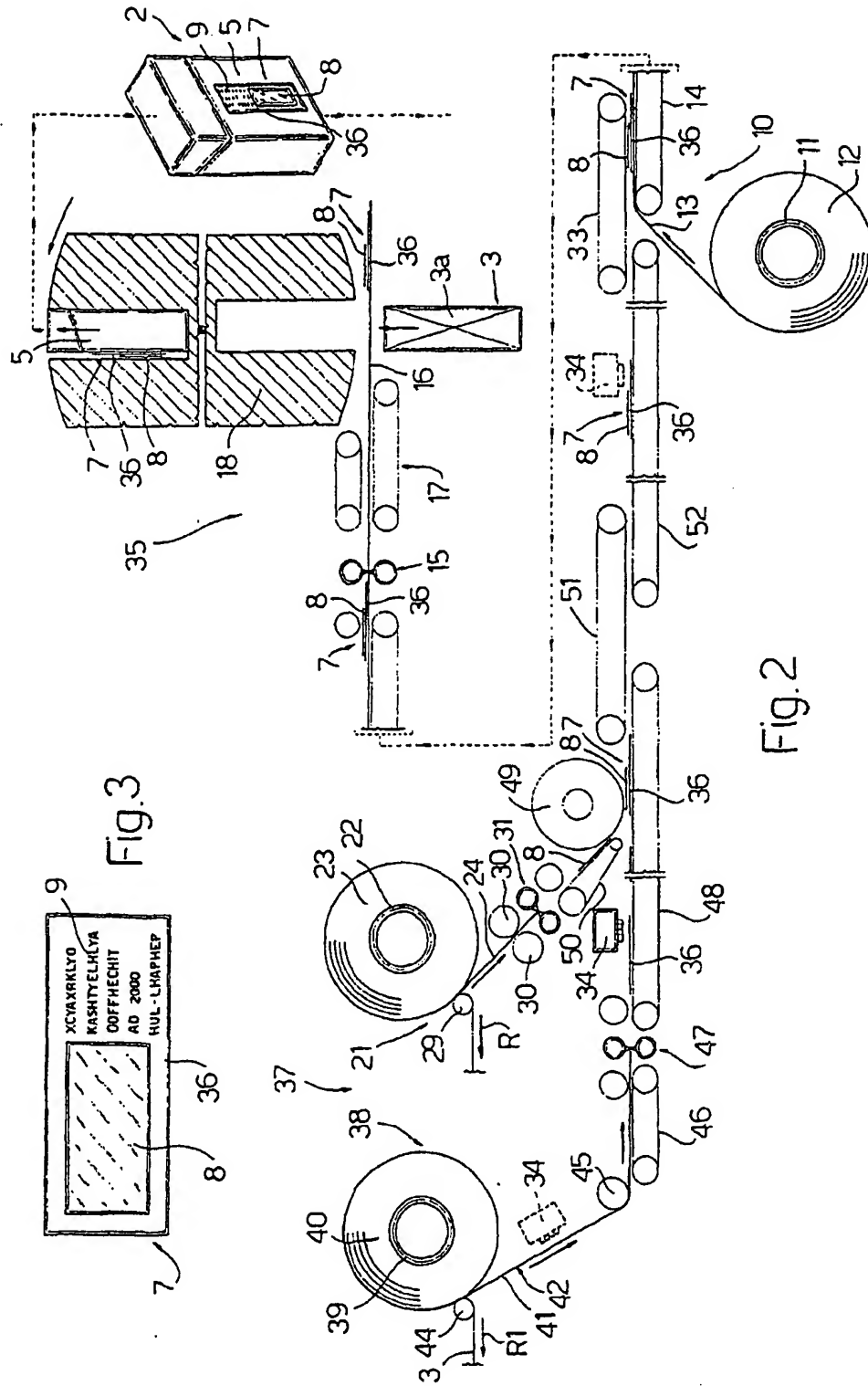


Fig.2

Fig.3

